<u>IN THE CLAIMS</u>:

Please cancel Claims 1 to 17 and 37 to 40 without prejudice or disclaimer of subject matter and add new Claims 41 to 59 as shown below. The claims, as pending in the subject application, read as follows:

1. to 40. (Canceled)

41. (New) A method of establishing communication via a network between a first device and a second device, said first device and said second device forming a current chain of devices each having an associated profile, said method comprising:

a determining step of determining an input/output profile match between all successive pairs of devices in the current chain of devices;

a first establishing step of establishing, if the input/output profile match between all the successive pairs of devices in the current chain of devices is not found, the communication between said first device and said second device by interposing at least one additional device, said interposing forming a second chain of devices including the devices in the current chain of devices and said at least one additional device, wherein the first establishing step is performed by at least one of the devices in the current chain of devices;

if an input/output profile match is not found between all the successive pairs of devices in the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device, designating said second chain of devices which comprises the devices in the current chain of devices and said at least one additional device as the current chain of devices, and repeating the first establishing step; and

a second establishing step of establishing, if the input/output profile match between all the successive pairs of devices in the current chain of devices is found, the communication between said first device and said second device without interposing said

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at least one additional device, wherein the second establishing step is performed by at least one of the devices in the current chain of devices.

42. (New) The method according to claim 41, wherein said first establishing step comprises one of:

forming the chain of devices commencing with said first device, proceeding to each said at least one additional device in succession, and concluding with said second device; and

forming the chain of devices commencing with said second device, proceeding to each said at least one additional device in succession, and concluding with said first device.

43. (New) The method according to claim 41, wherein each first device, second device, and additional device comprises one of a device or a service.

44. (New) The method according to claim 41, wherein said first establishing step comprises a step of:

interposing said at least one additional device between said first device and said second device to form said second chain of said devices, said interposing forming successive pairs of devices in said second chain so that the input/output profile match is established between all the successive pairs of said devices.

45. (New) The method according to claim 44, wherein said interposing comprises one of the steps of:

forming the chain of said devices commencing with said first device, proceeding to each said at least one additional device in succession, and concluding with said second device; and

forming the chain of devices commencing with said second device, proceeding to each said at least one additional device in succession, and concluding with said first device.

46. (New) The method according to claim 41, wherein said interposing step comprises:

a first specifying step of specifying one of said first device and said second device as a searching device;

a searching step of searching said network from said searching device to identify an additional device coupled to said network and having an input/output profile match with said searching device to thereby form a pair of devices providing communication between said searching device and said additional device;

a second specifying step of specifying said additional device as said searching device;

repeating the searching step and second specifying step until the non-specified one of said first device and said second device from the first specifying step is identified as said additional device; and

establishing the communication between said first device and said second device via said successive pairs of devices.

47. (New) The method according to claim 46, wherein each said first device, second device, and additional device is selected from the group consisting of a device and a service.

48. (New) The method according to claim 41, further comprising the steps of:

if the input/output profile match between the first device and the second device is found, sending a message using a messaging protocol from the first device to the second device to establish a process between the first device and the second device, said process being dependent upon said message, said input/output profile match establishing a compatible mapping of the message between the first device and the second device; and

if the input/output profile match between the first device and the second device is not found, sending the message using the messaging protocol from the first device via said at least one additional device to the second device to establish the process between the first device and the second device, said process being dependent upon said message, said input/output profile match between said each successive pair of devices establishing said compatible mapping of the message between the first device and the second device.

49. (New) The method according to claim 48, whereby said interposing step comprises:

a first communicating step of communicating, by one of said first device and said second device of said message and a. first address, to a first additional device, thereby forming a chain of successive pairs of devices among said first device, said second device and said first additional device, said communicating not requiring understanding by said communicating device of said message;

an establishing step of establishing said process, dependent upon said message and said address, if an input/output profile match is established between each successive pair of devices, whereby said compatible mapping of said message is established from said first device to said second device;

a second communicating step of communicating, by one of said first device, said second device and said first additional device, if said input/output profile match is not established between each successive pair of devices, of said message, said first address and a second address, to a second additional device, thereby forming successive pairs of devices among said first device, said second device, said first and said second additional devices, said communicating not requiring understanding by said communicating device of said message; and

repeating the establishing step and the second communicating step until said process is established, said input/output profile match being established between each successive pair of devices, and said compatible mapping of said message being established from said first device to said second device.

50. (New) The method according to claim 48, whereby said message comprises at least one of a command and a data value.

51. (New) The method according to claim 48, whereby said messaging protocol is the Extended Markup Language, XML.

52. (New) The method according to claim 41, wherein the input/output profile match is a partial profile match.

53. (New) The method according to claim 41, wherein the interposing step comprises the steps of:

discovering if the input/output profile match between said first device and said second device is not found, at least one additional device; and

announcing, by the at least one additional device, its presence.

54. (New) An apparatus for use in a method of establishing communication via a network between a first device and a second device, said first device and said second device forming, when communicating, a current chain of devices each having an associated input/output profile, said apparatus constituting one of said first device and said second device and comprising;

a determining means for determining an input/output profile match between all successive pairs of devices in a chain of devices;

a first establishing means for establishing, if the input/output profile match between all the successive pairs of devices in the current chain of devices is not found, the communication between said first device and said second device by interposing at least one additional device, said interposing forming a second chain of devices including the devices in the current chain of devices and said at least one additional device;

repeating means which, if an input/output profile match is not found between all the successive pairs of devices in the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device, (i) designates the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device as a current chain of devices, and (ii) repeats the process by the first establishing means; and

a second establishing means for establishing, if the input/output profile match between all the successive pairs of devices in the current chain of devices is found, the communication between said first device and said second device without interposing said at least one additional device.

55. (New) The apparatus according to claim 54, further comprising:

searching means for searching the at least one additional device having an input/output profile match with the input/output profile of the device.

56. (New) The apparatus according to either one of claims 54 and 55, further comprising:

requesting means for requesting the at least one additional device for format conversion of data from an external device,

wherein said first establishing means receives the converted data from the at least one additional device.

57. (New) The apparatus according to claim 54, wherein the input/output profile match is a partial profile match.

58. (New) A communication system comprising:

a communication network:

a plurality of devices coupled to said network, each said device comprising an apparatus as claimed in claim 54.

59. (New) A computer-readable storage medium on which is stored a computer-executable program for controlling a processor of a device to execute the method as claimed in claim 41.